

Input a data set D consisting of text documents, each labeled as belonging to 0 or more classes from a set or hierarchy of classes S .

110

Construct a single vector representation of text features extracted or associated with each text document in D .

120

For each labeled text document in data set D , create a training set $T(D)$ by labeling the vector by the same set of classes used to label the text documents.

130

For each labeled text document in data set D , create a to induce classification methods that can be used to assign classes in S to a hitherto unseen feature vector with the same structure as those in $T(D)$.

140

For each class in S , output the classification methods that can be used to assign that class to a hitherto unseen text document by applying the methods to a feature vector derived from there text document in the same way that the feature vectors in $T(D)$ were derived from the data set D .

150

Prior Art

100

Figure 1

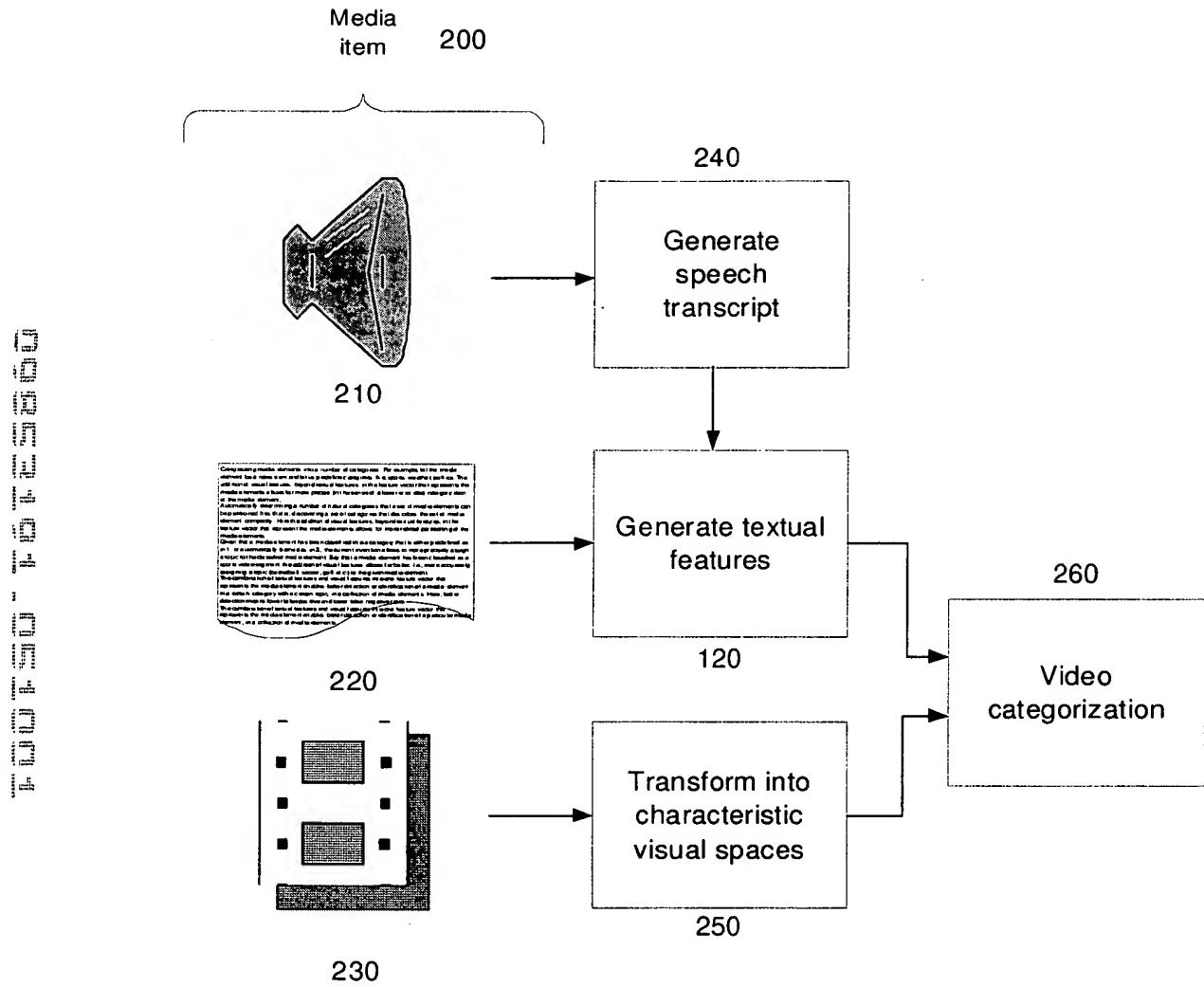


Figure 2

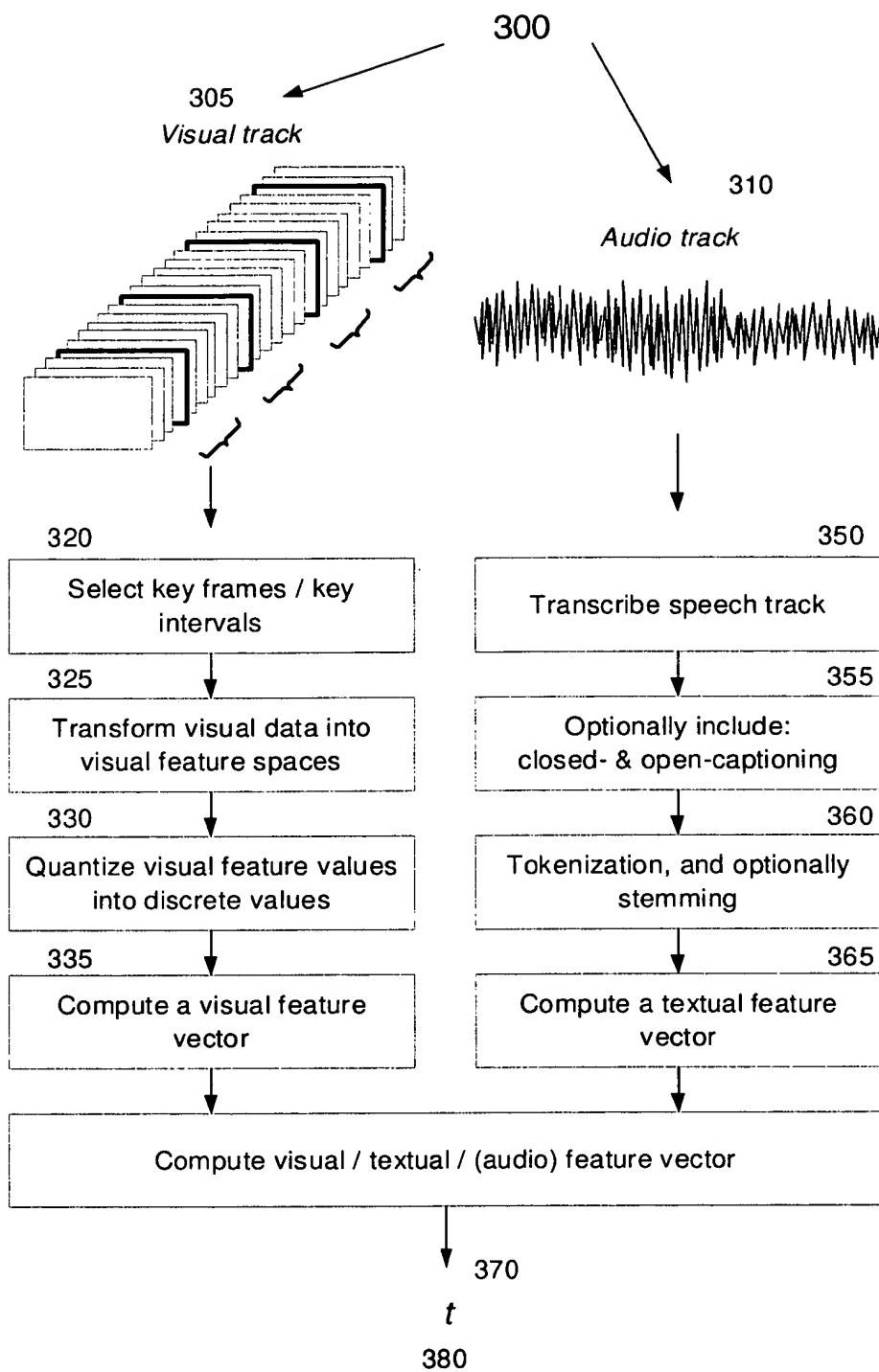


Figure 3

00000000000000000000000000000000

400

Input a data set D consisting of media items, each labeled as belonging to 0 or more classes from a set or hierarchy of classes S .

410

Construct a single vector representation of text features and/or audio features extracted or associated with each media item in D .

420

Construct a single vector representation of visual features extracted or associated with each media item in D .

430

For each labeled media item in data set D , create a training set $T(D)$ by combining the 2 vector representations of that media item (constructed in the preceding 2 steps) into a single composite feature vector, with the resulting vector labeled by the same set of classes used to label the media item.

440

Use a supervised learning technique, with $T(D)$ as training set, to induce a classifier that can be used to assign classes in S to a hitherto unseen composite feature vector with the same structure as those in $T(D)$.

450

Output the classifier induced in the preceding step.

460

Figure 4

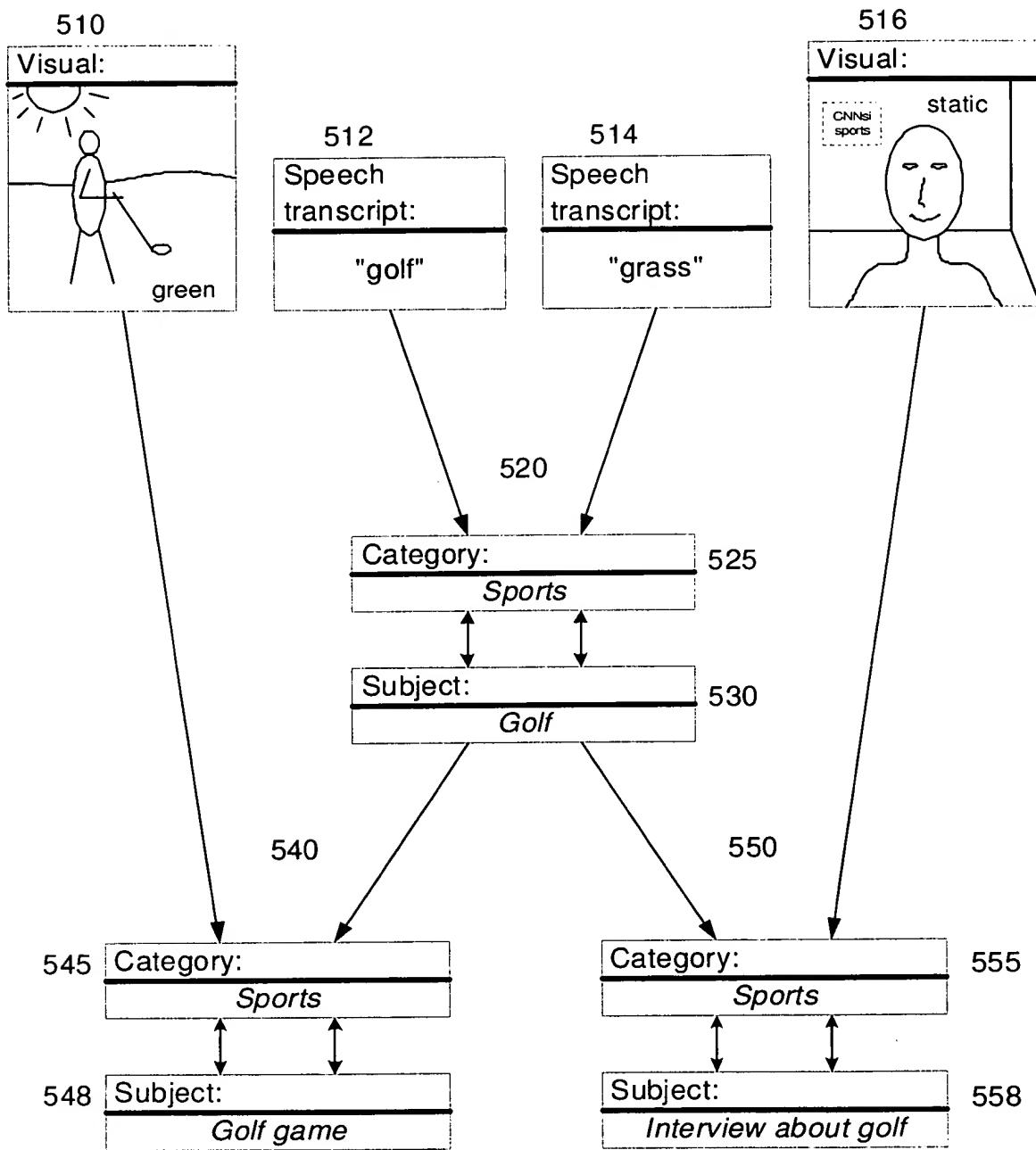
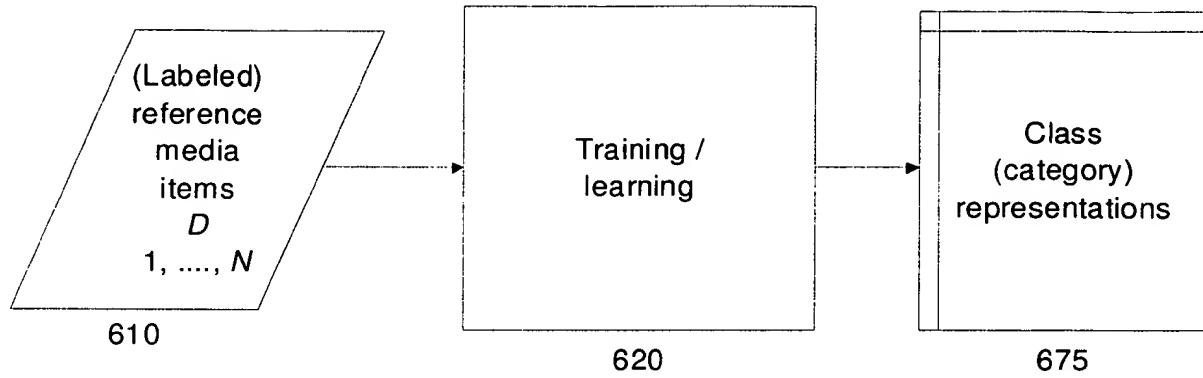
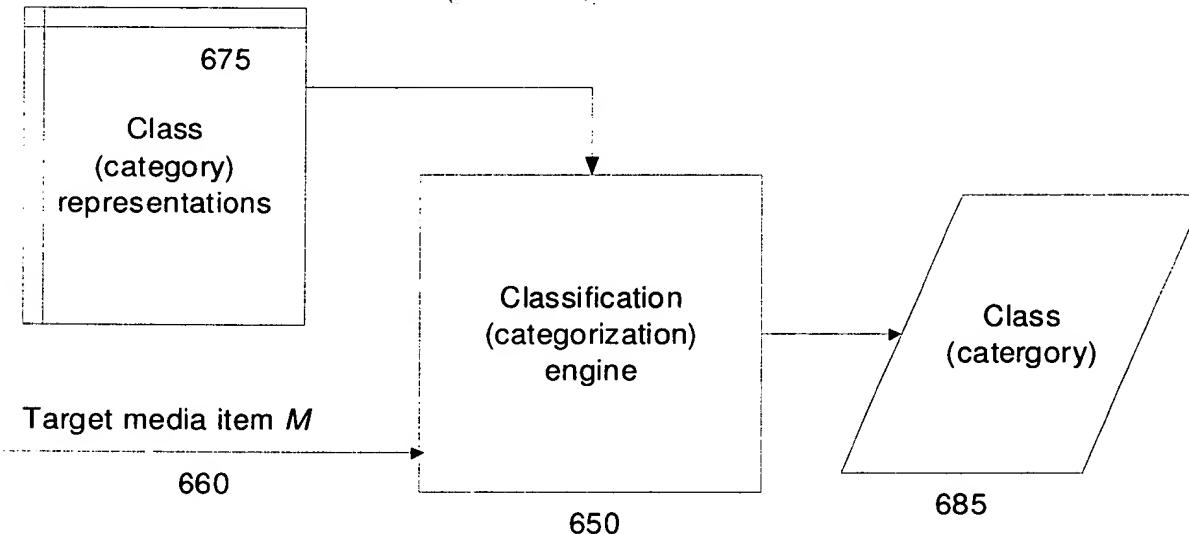


Figure 5



Training / learning phase 610

A



Classification phase 615

B

Figure 6

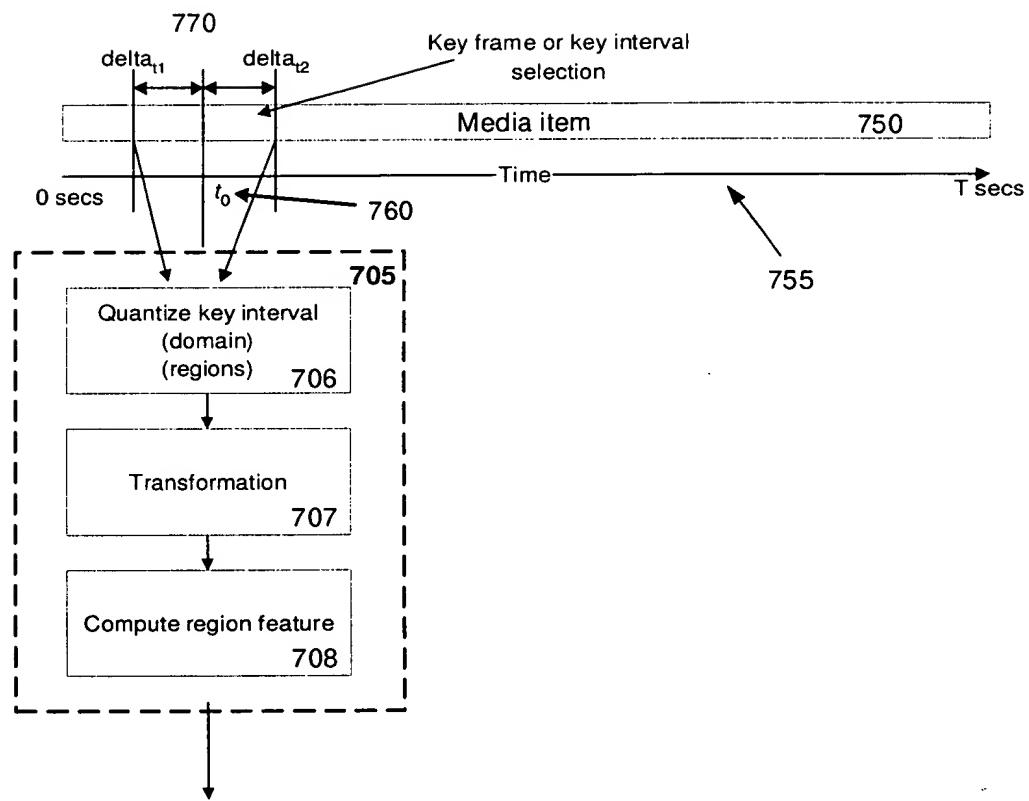


Figure 7A

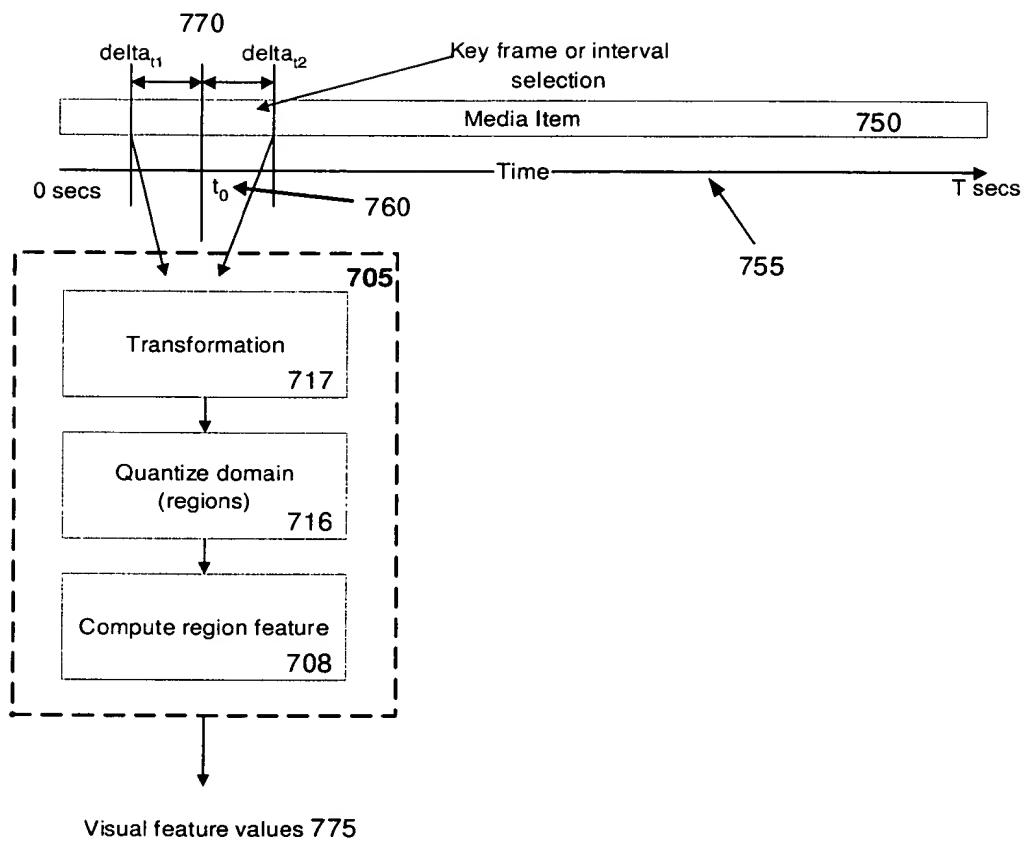


Figure 7B

(Part of)
media item
810

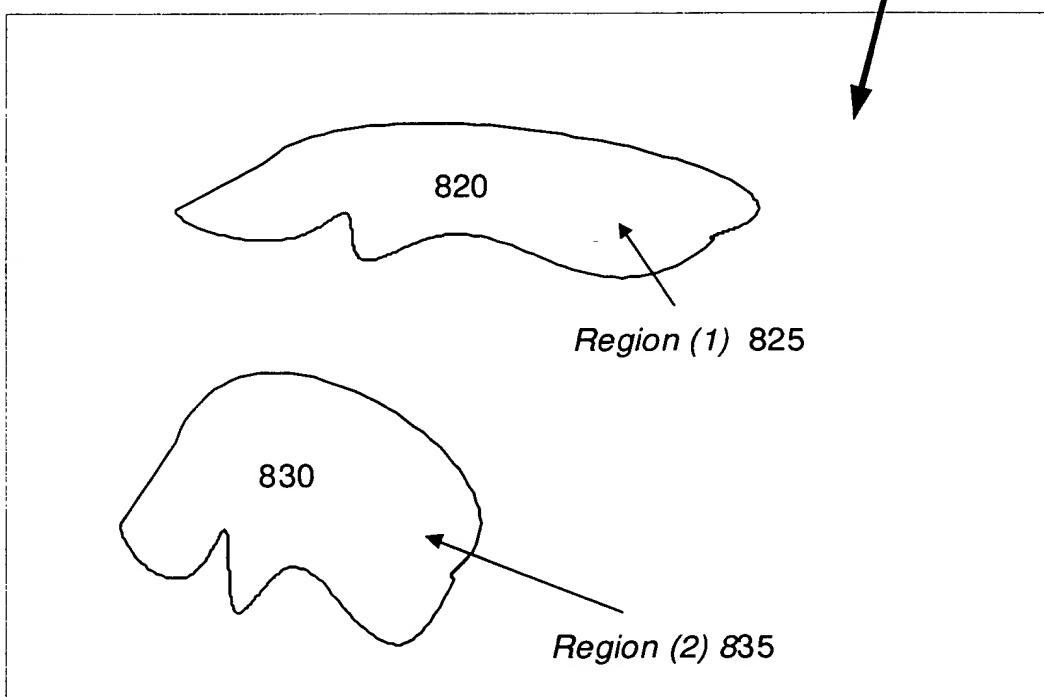


Figure 8

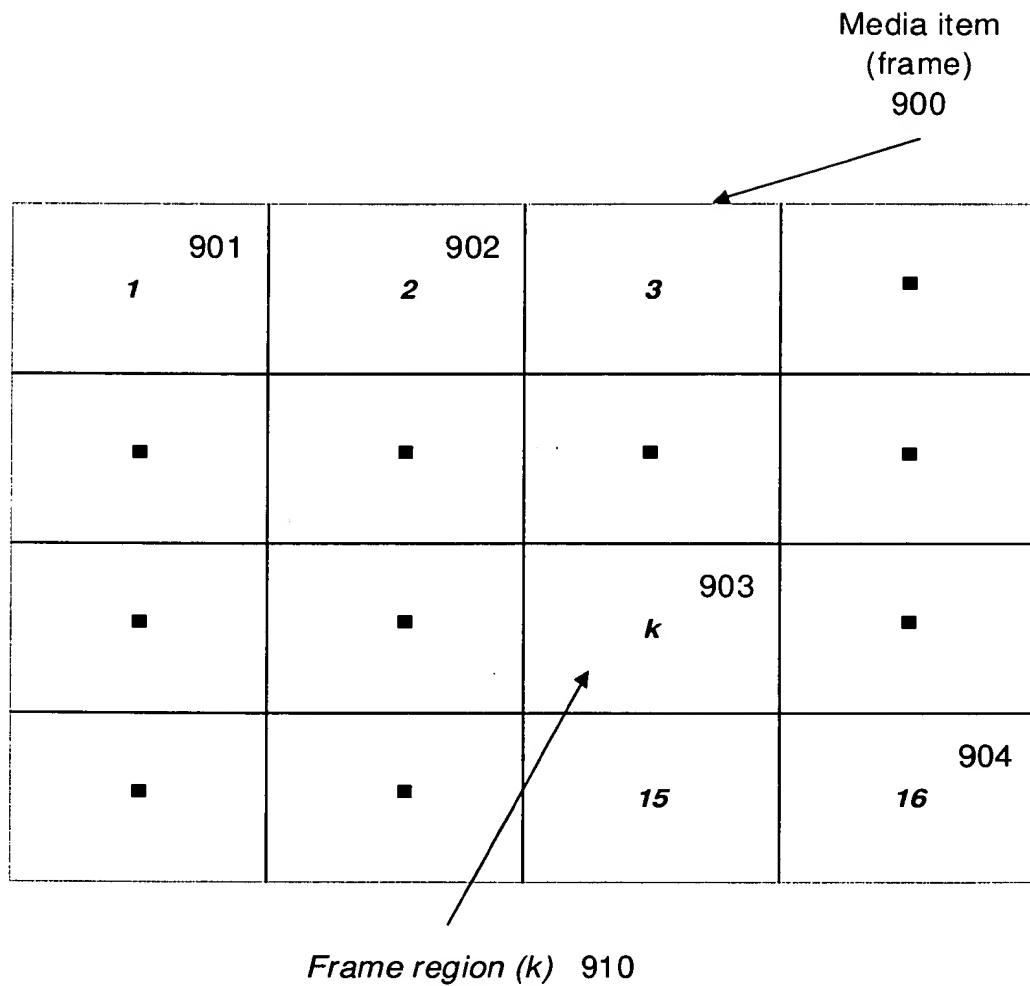


Figure 9

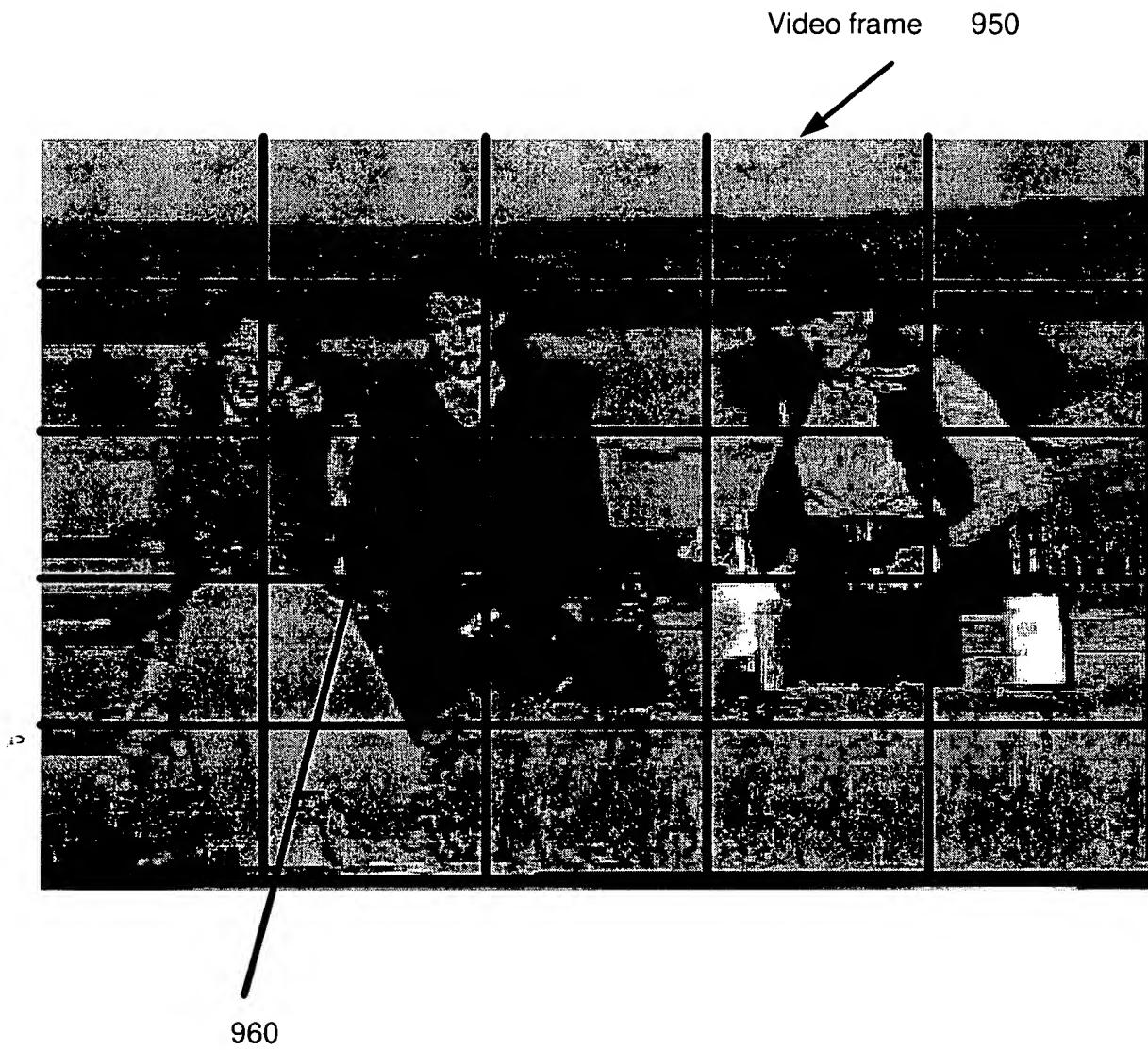


Figure 9A

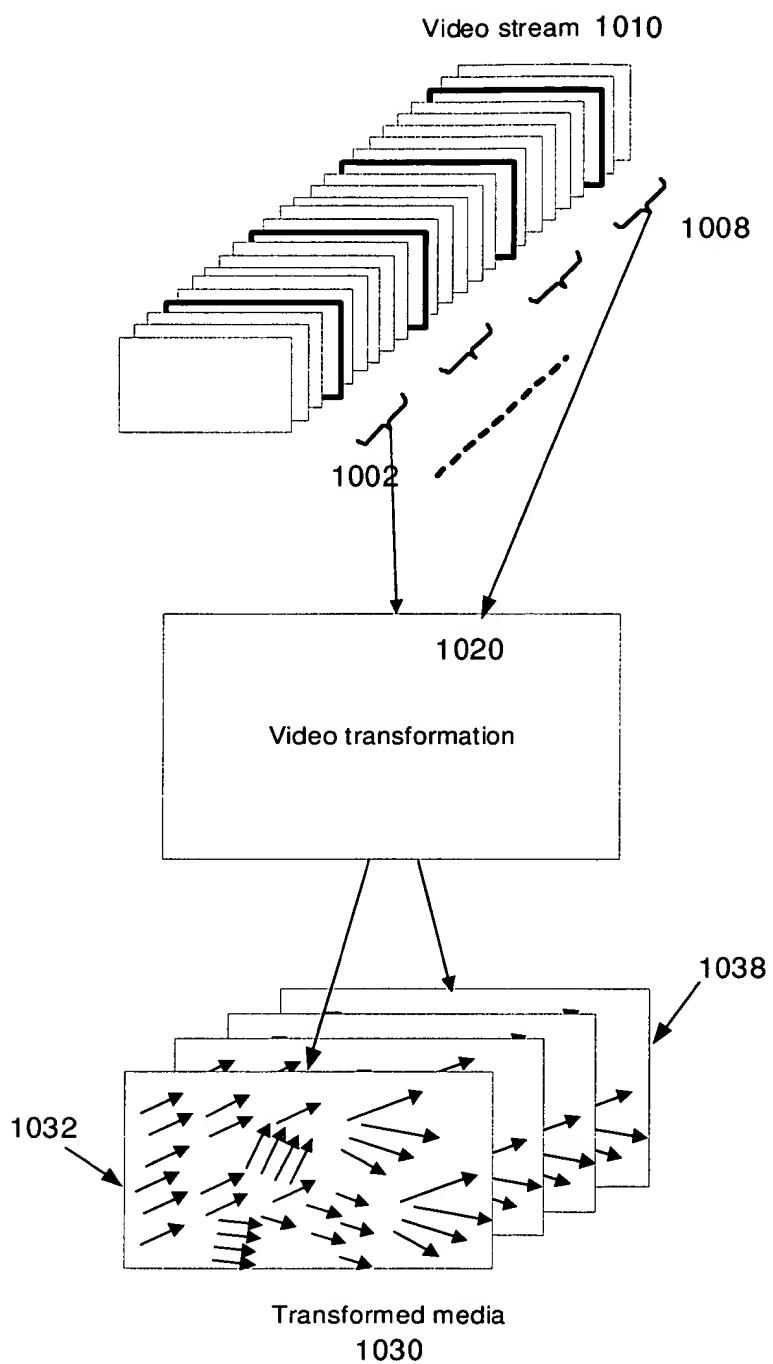


Figure 10

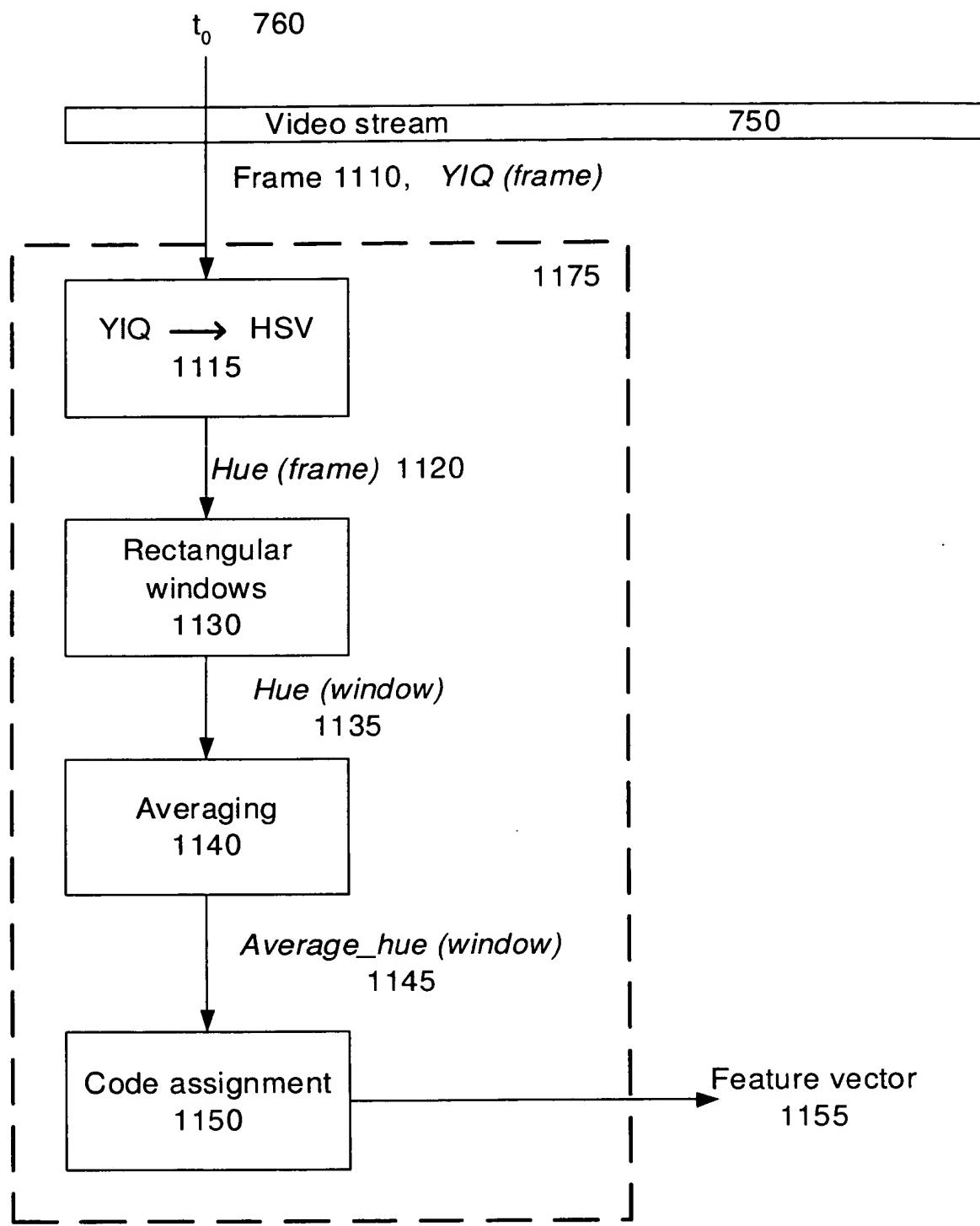
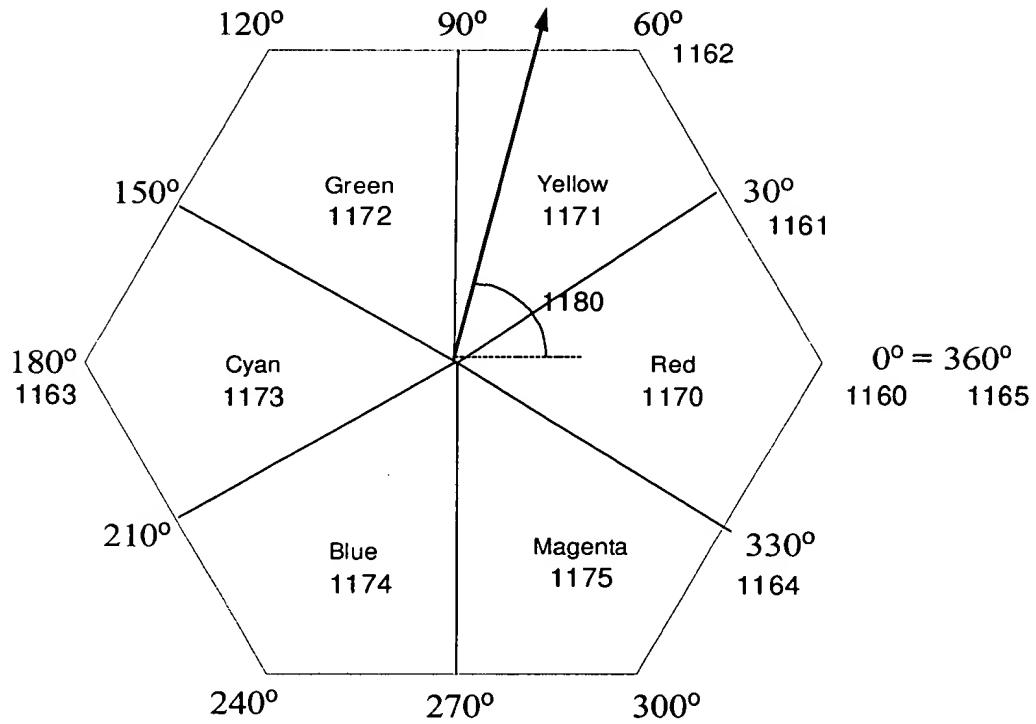


Figure 11A



Hue quantization (1180)

<i>Color range</i>		<i>Code</i>	<i>Color</i>	
330 - 30	degrees	0	Red	(1170)
30 - 90	degrees	1	Yellow	(1171)
90 - 150	degrees	2	Green	(1172)
150 - 210	degrees	3	Cyan	(1173)
210 - 270	degrees	4	Blue	(1174)
270 - 330	degrees	5	Magenta	(1175)

Figure 11B

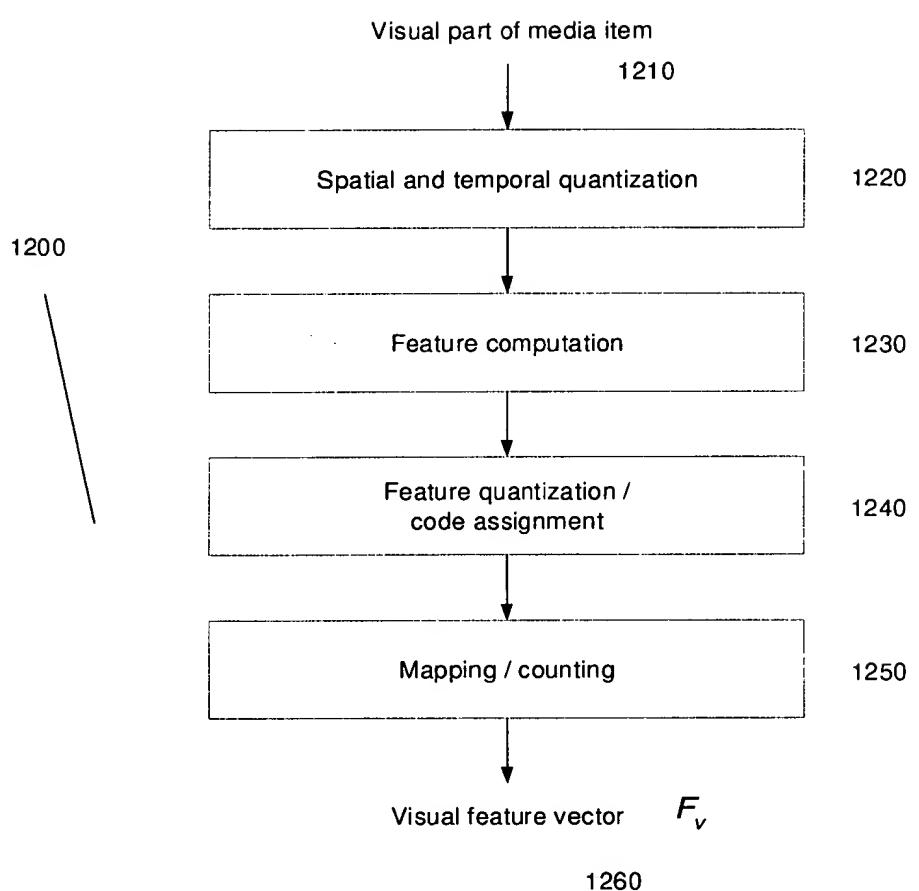


Figure 12

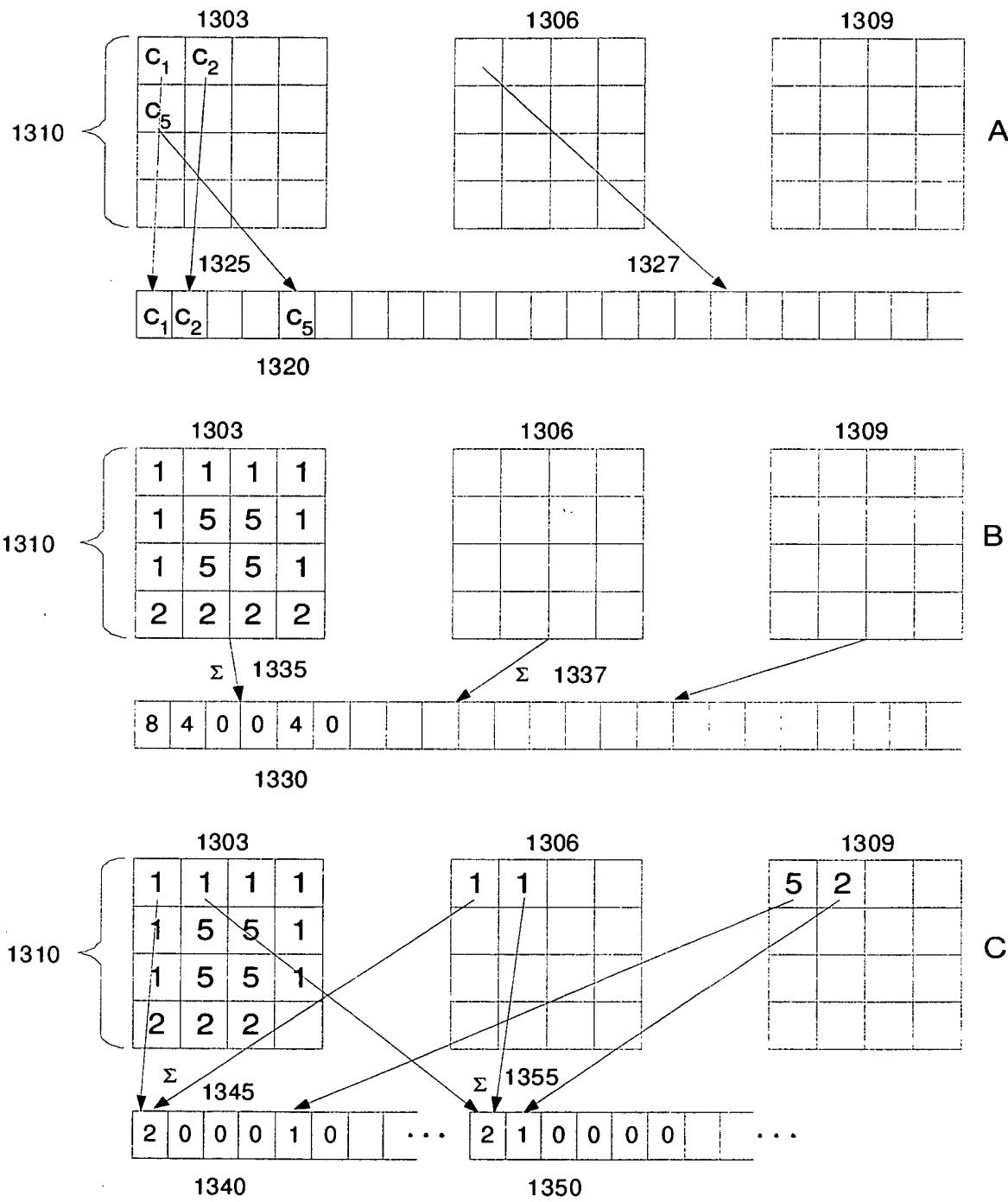


Figure 13

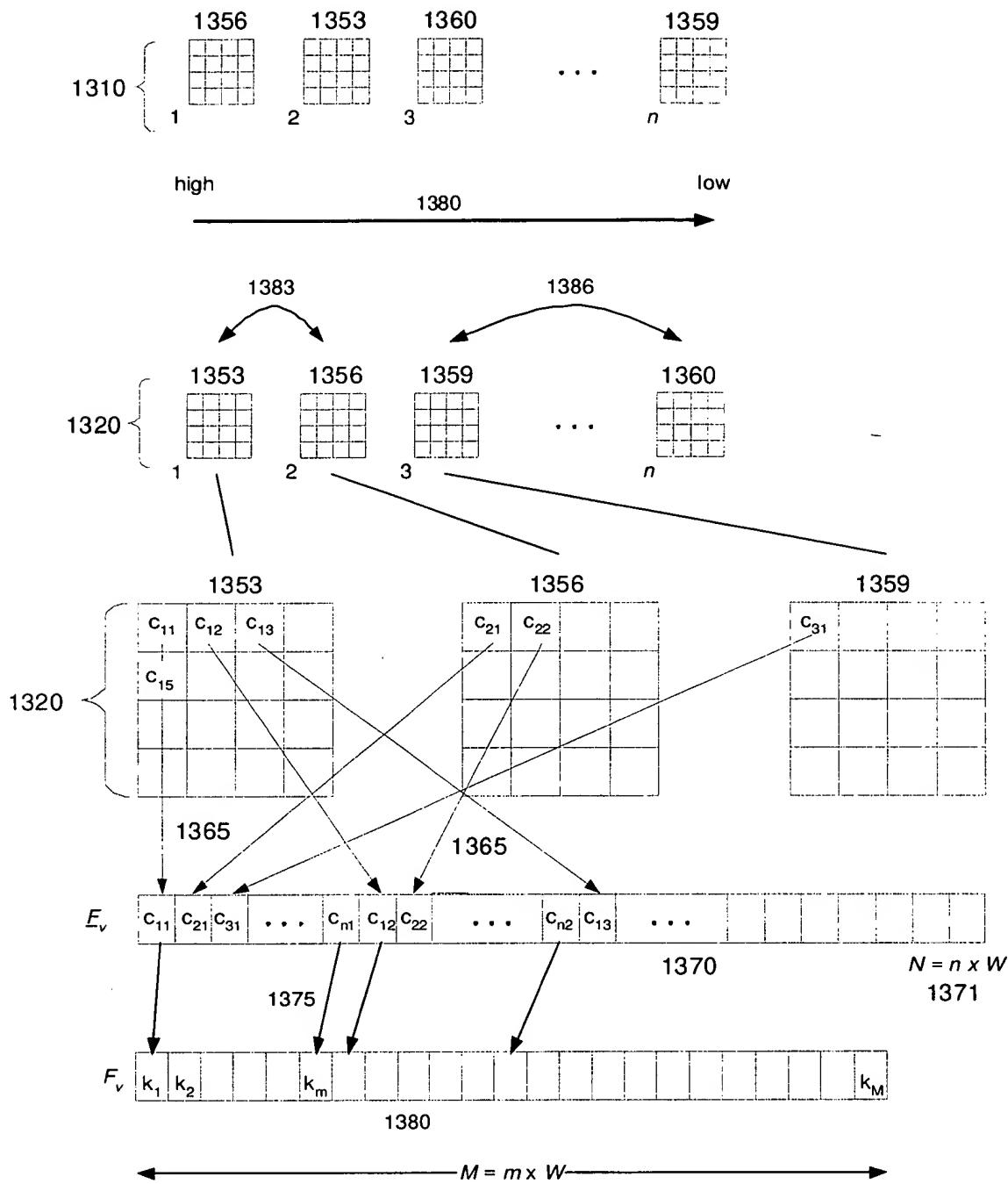


Figure 13D

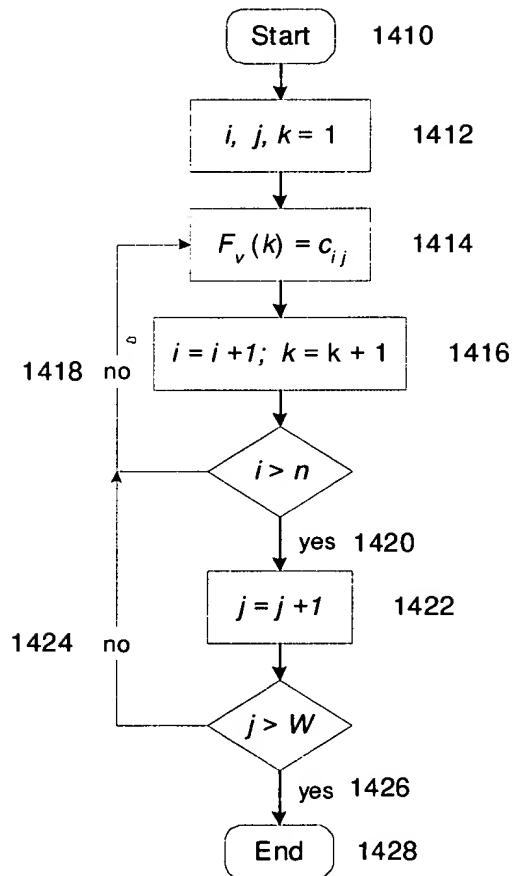
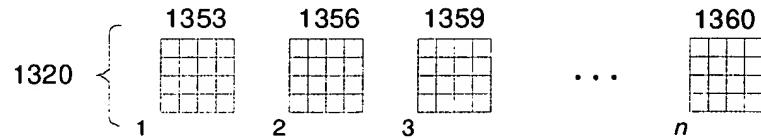
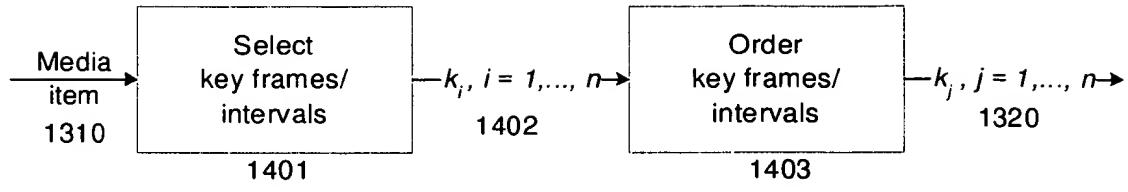


Figure 14A

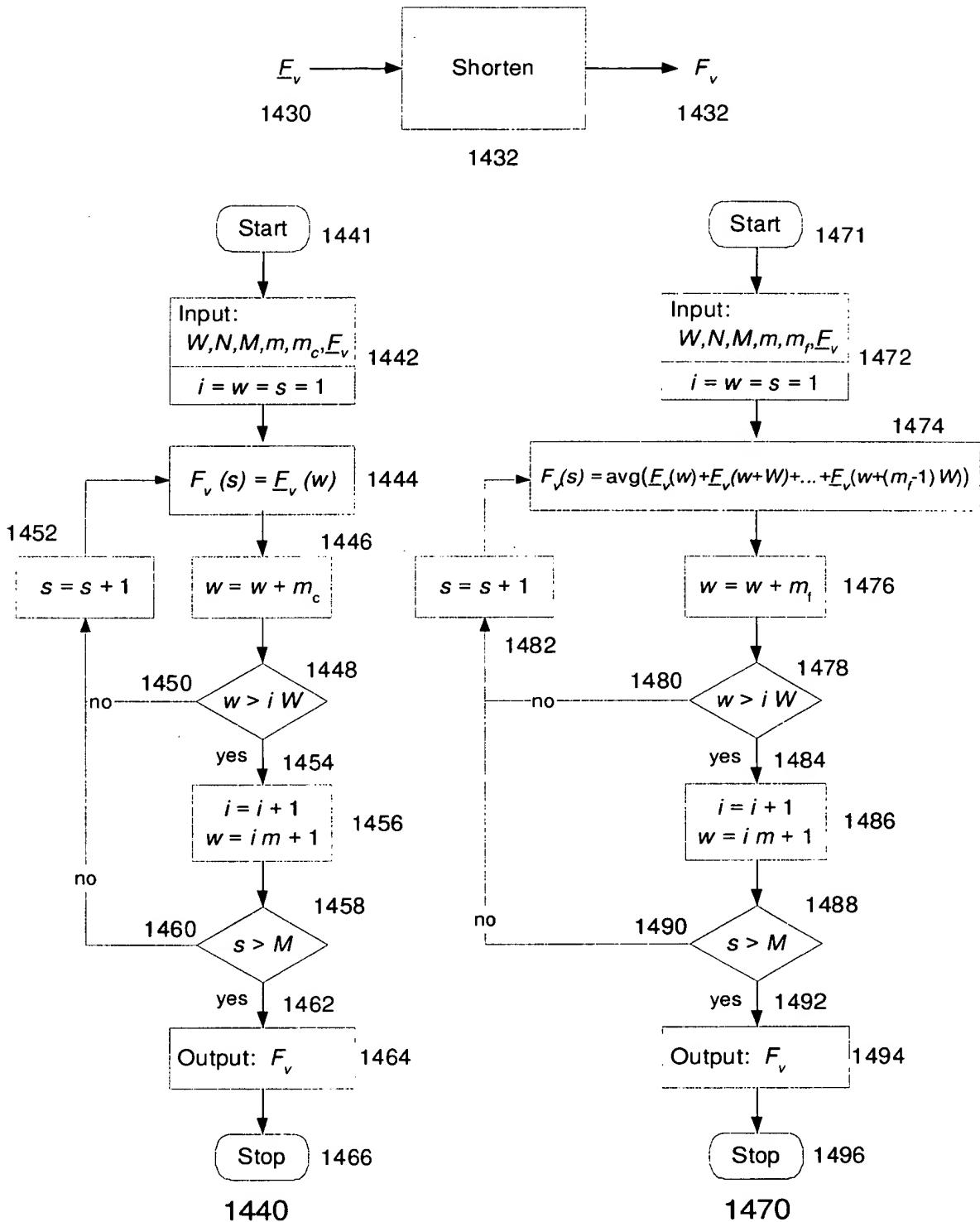


Figure 14B

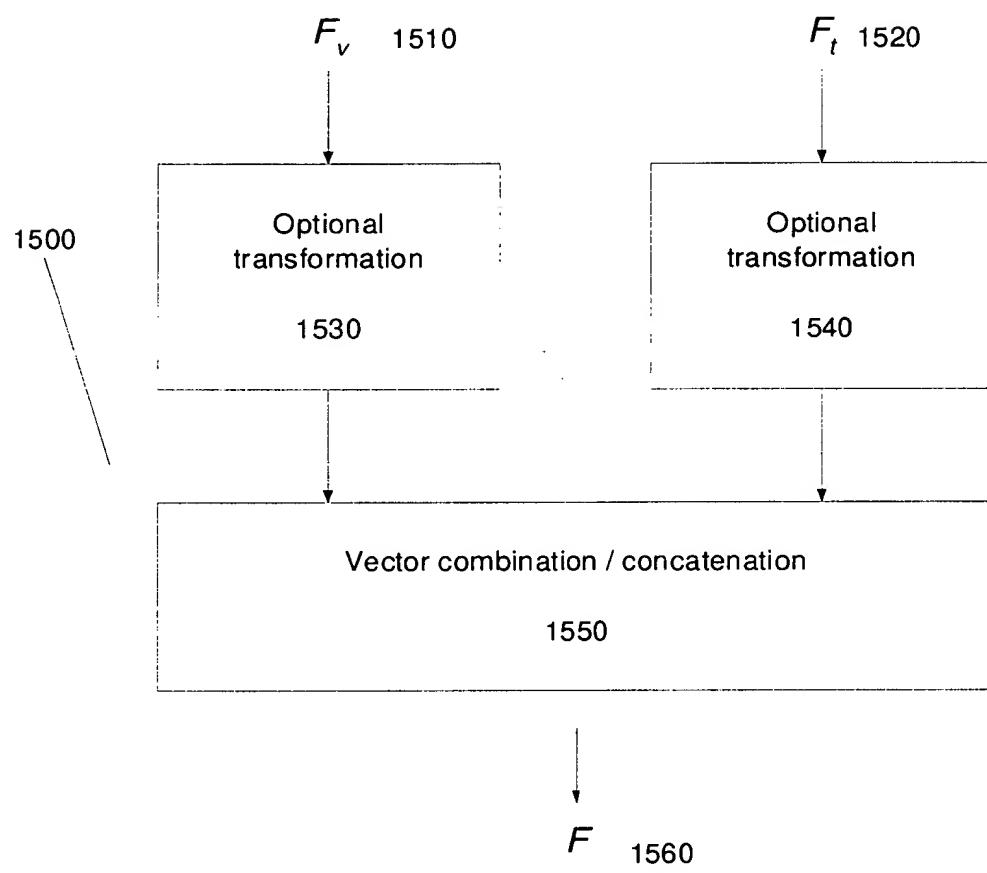


Figure 15

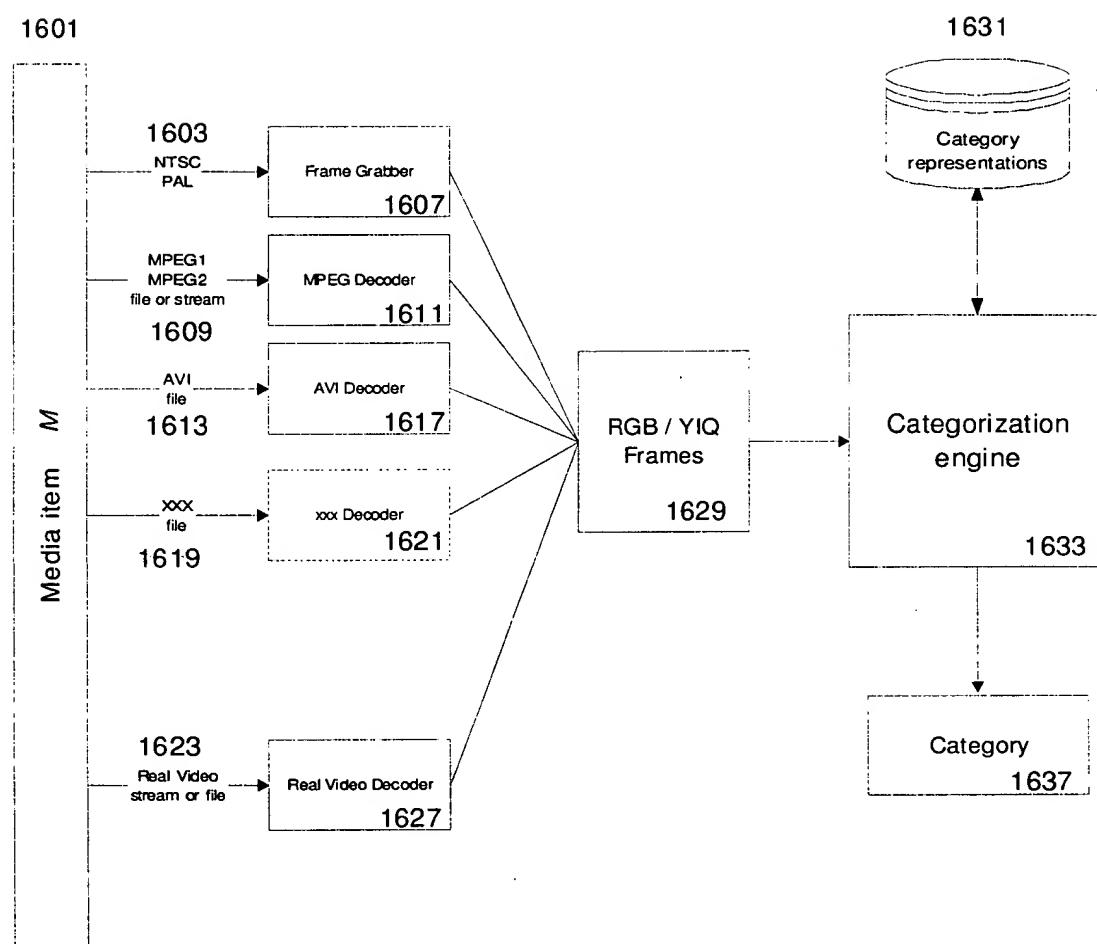


Figure 16

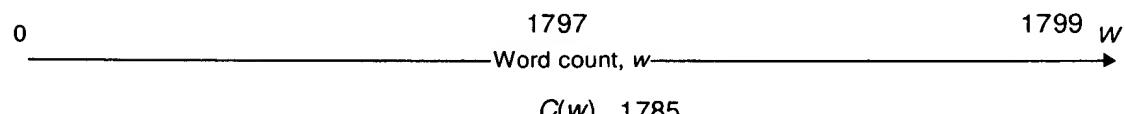
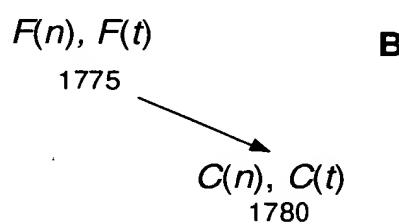
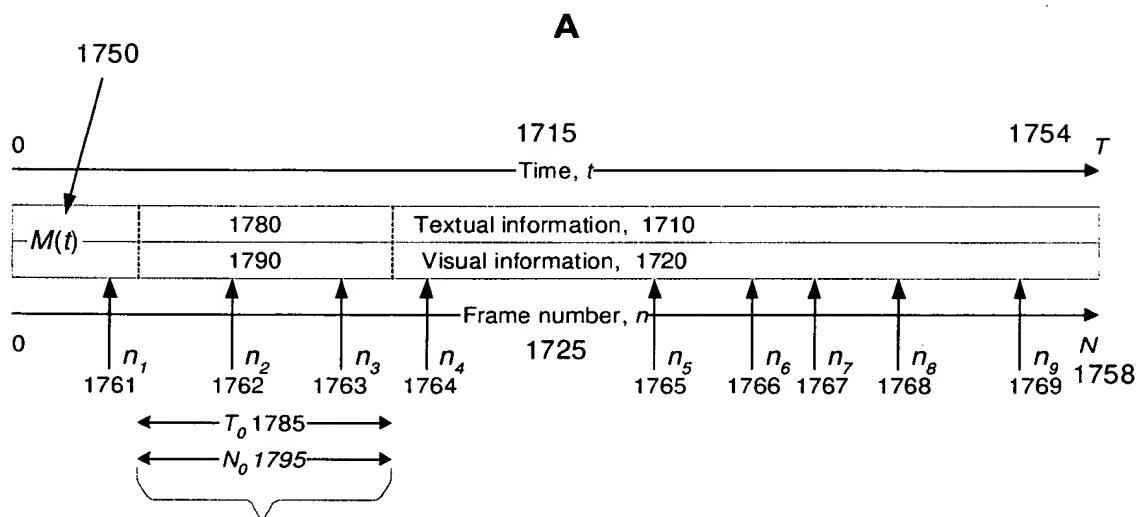
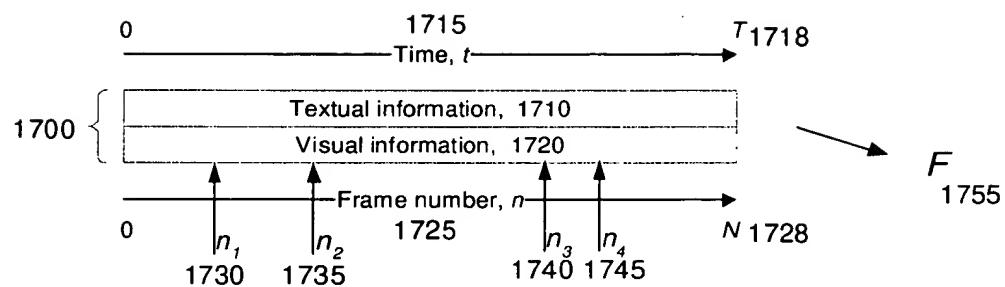


Figure 17

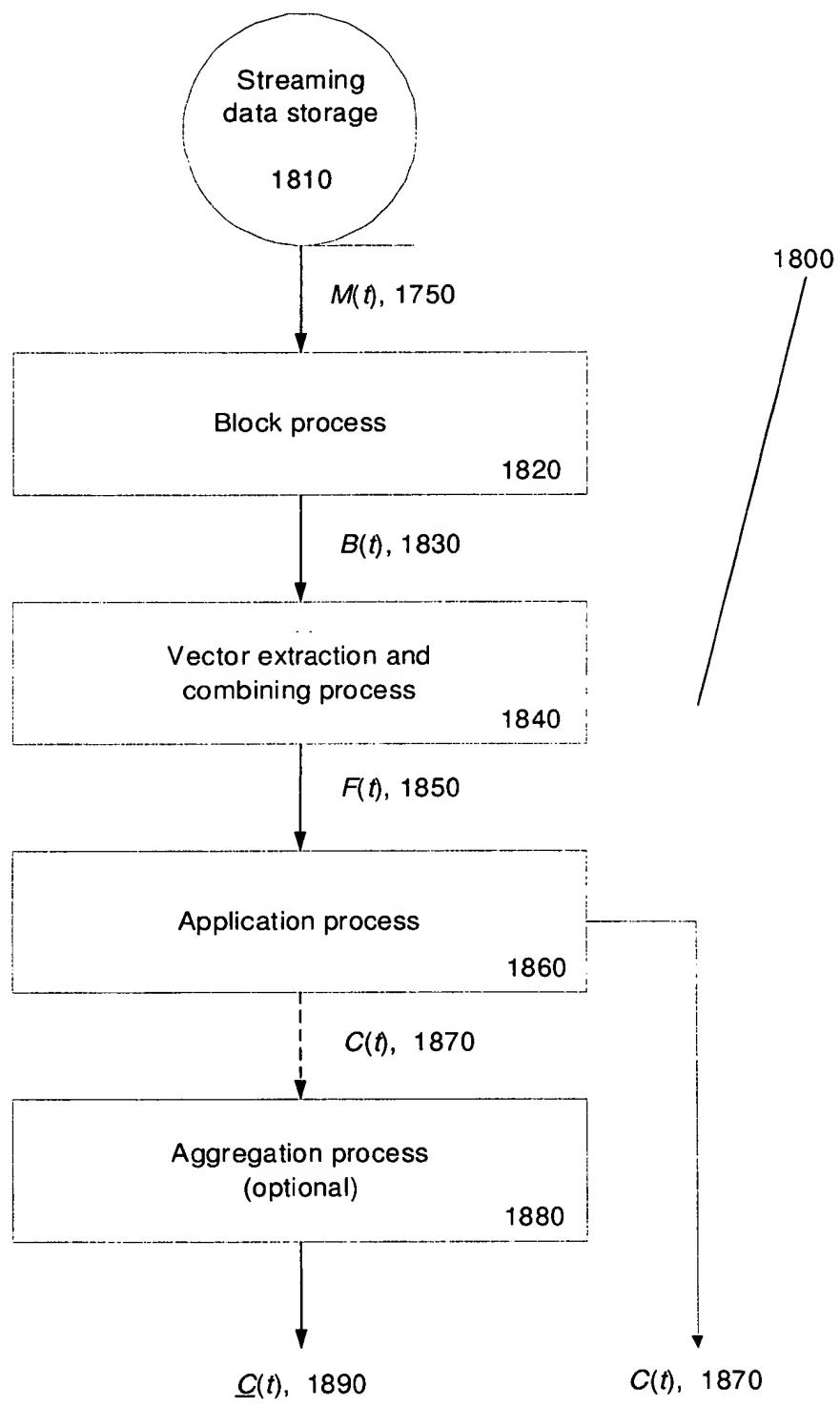


Figure 18

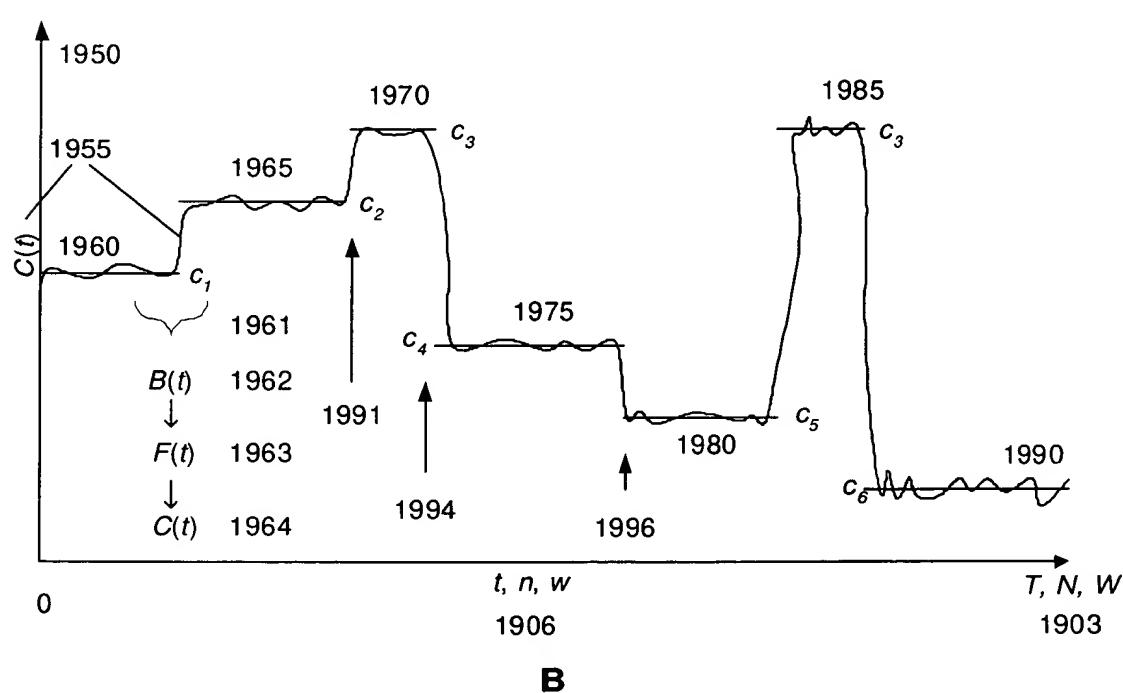
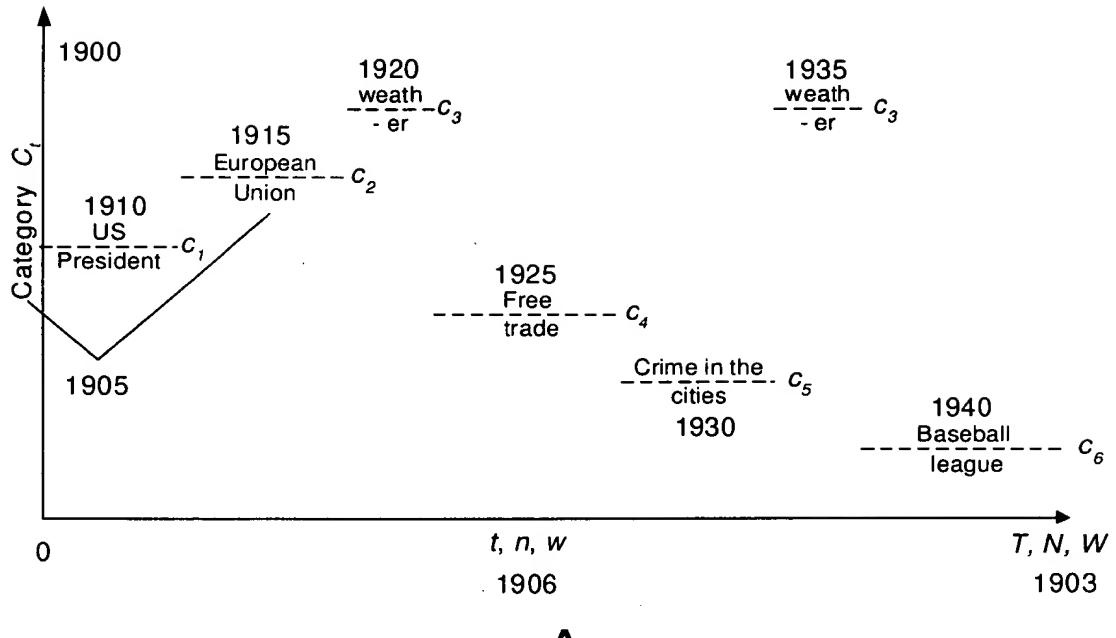
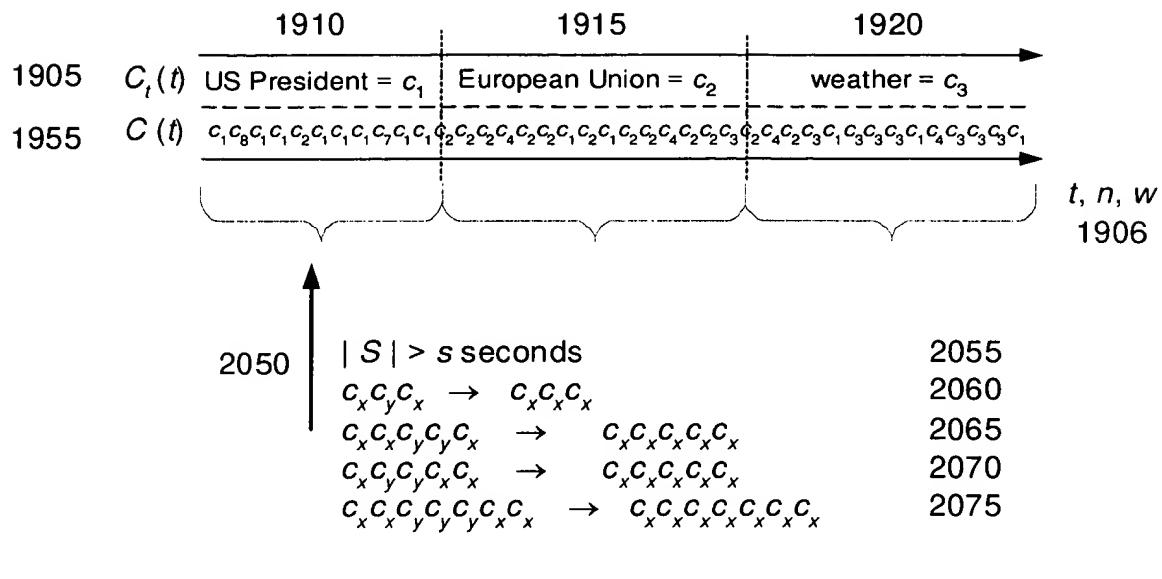
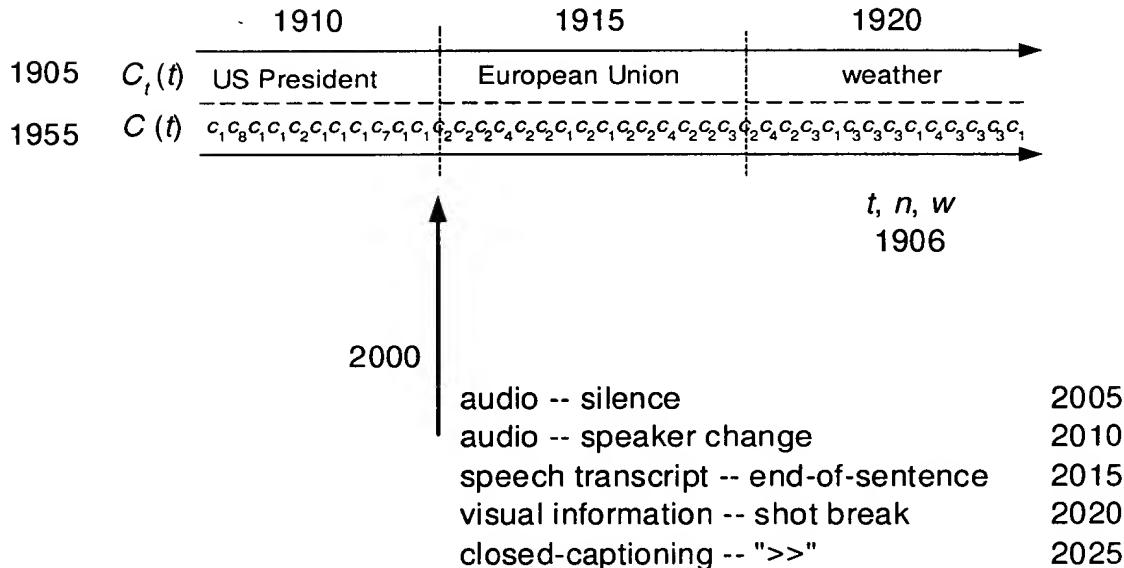


Figure 19



A



B

Figure 20

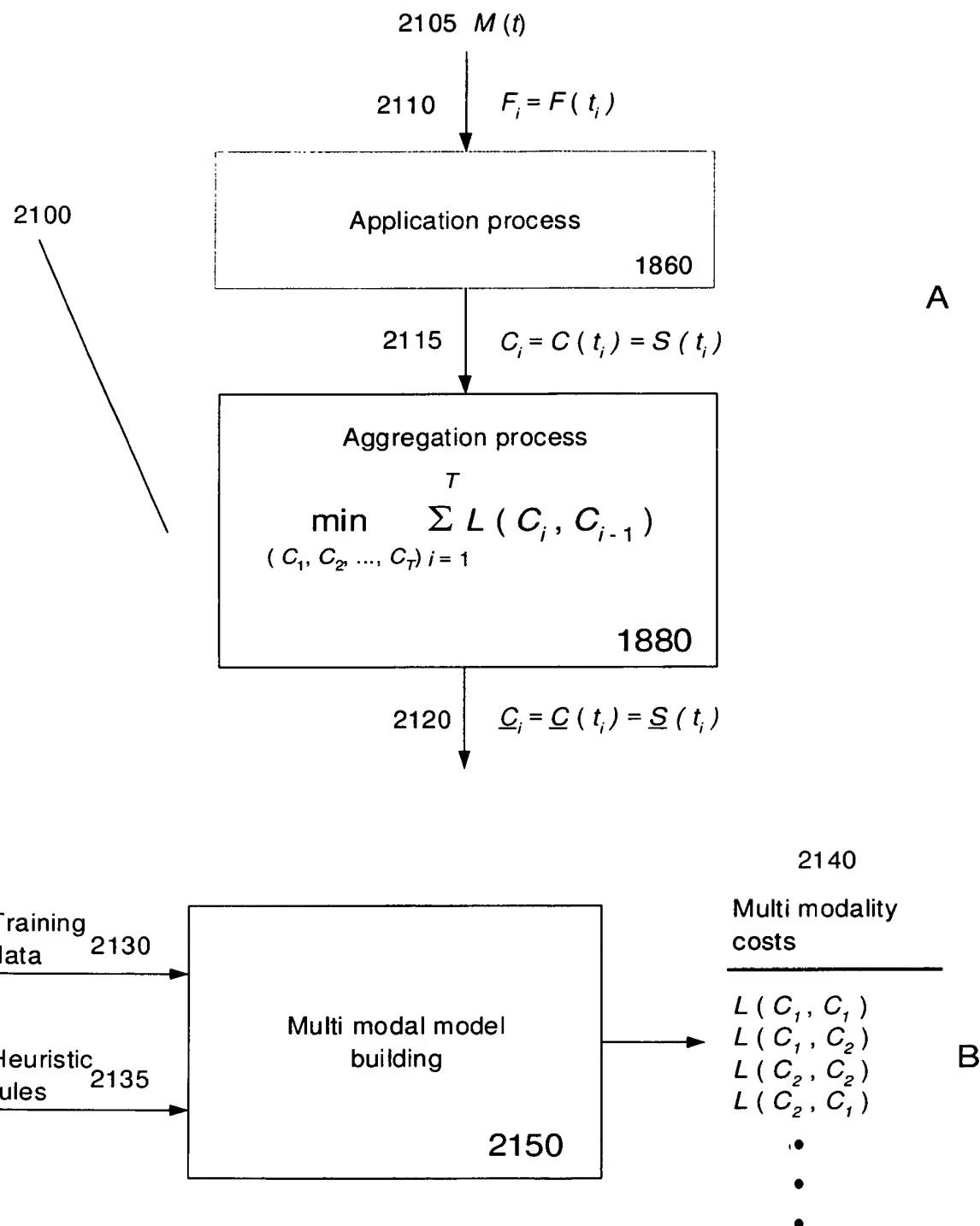


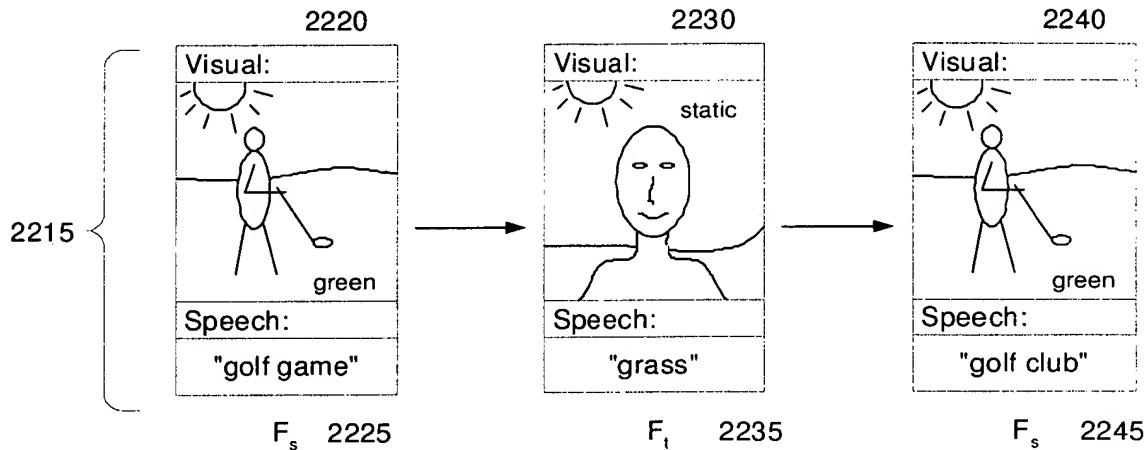
Figure 21

$F_s \rightarrow \text{"sport"}$
 $F_t \rightarrow \text{"sport or disaster"}$
 $F_d \rightarrow \text{"disaster"}$

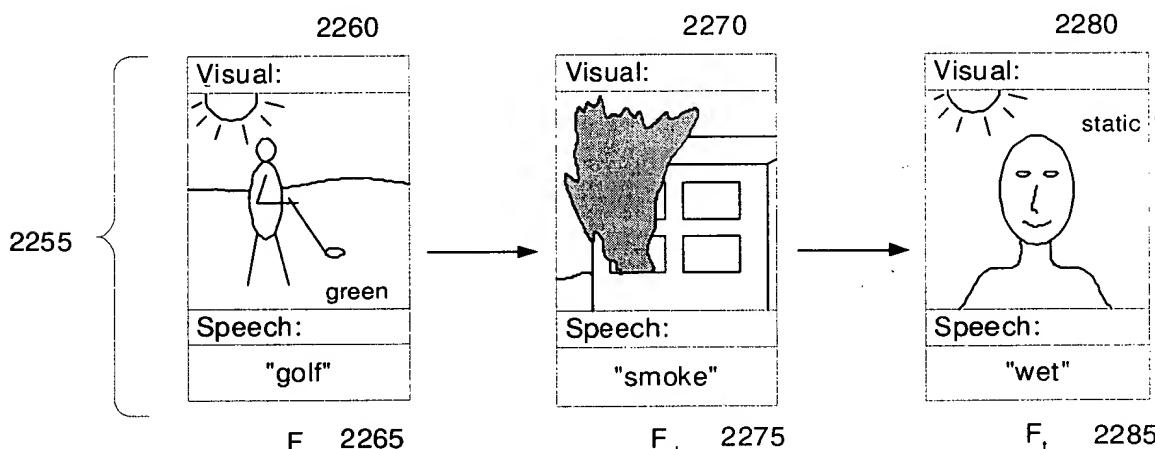
2205

$L(\text{sport, sport})$	=	small
$L(\text{sport, disaster})$	=	large
$L(\text{disaster, sport})$	=	large
$L(\text{disaster, disaster})$	=	small

2210



Interpretation:
 sport \rightarrow sport \rightarrow sport \rightarrow sport 2250



Interpretation:
 sport \rightarrow disaster \rightarrow disaster 2290

Figure 22